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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,054	05/11/2006	Andy Zheng Song	128012	1387

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OLIFF & BERRIDGE, PLC
P.O. BOX 320850
ALEXANDRIA, VA 22320-4850

EXAMINER	
PHANTANA ANGKOOL, DAVID	
ART UNIT	PAPER NUMBER
2175	
MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/579,054	SONG, ANDY ZHENG	
	Examiner	Art Unit	
	David Phantana-angkool	2175	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 April 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,5,6,8,10-12,14-16 and 30-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,5,6,8,10-12,14-16 and 30-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This application has been reassigned to Examiner David Phantana-angkool.

2. This action is responsive to the following communications: Amendments filed on April 30th, 2009.

3. Claims 1, 3, 5, 6, 8, 10-12, 14-16 and 30-40 are pending claims.

4. Applicant amended claims 1 and 8.

5. Applicant added claims 36-40

Claim Rejections - 35 USC § 103

6. **The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:**

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. **Claims 1, 3, 5, 6, 8, 10, 14-16, and 30-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oross, US# 6,757,002 in view of Westerman et al., US# 6,888,536 (hereinafter Westerman), and in further view of Bodnar, US# 6,542,950 B1.**

As for independent claim 1:

Oross shows a method of entering input into a computing system, the method comprising the following steps:

- *detecting one or multiple input movements using a sensing panel associated with the computing system* (Fig. 1B, 4:19-21; the position detection device 16 is a digitizer of the resistive- type or capacitive type, and includes one or more active layers 20 that sense finger position);
- *classifying each detected input movement as being of a particular type* (3:37-44, the certain area corresponds to a certain function);

- *translating each input movement to an instruction signal by consulting a knowledge database* (11:25-35);
- *transmitting the instruction signal to the computing system* (4:42-45);
- *wherein translation of a detected input movement to an instruction signal involves a main process and one or more sub-processes, wherein each sub-process is invoked by the main process in response to a particular type of detected input movement* (column 4, column 5:62-6:15, and column 10:47-58; the position of such finger is detected by the active layer(s) 20 with signals being routed to the controller 22. Control signals then are forwarded to the host computing apparatus 12 indicative of the finger position),
- *the main process and the one or more sub processes together form a hierarchical control structure in which the main process determines whether an input movement corresponds to a prompt to invoke a particular mode, and where a particular mode is indicated, the main process invokes a sub process in that mode* (Oross discloses a special touch sensing area in column 5, lines 50-67. This special sensing area as shown in Figure 2 are either dedicated to implement specific functions or are programmable to implement the desired programmable functions. Further more Oross discloses common active layers to implement both the general touch and special sensing areas. The computer program, a hierarchical control structure, processes control signals indicative of position in the general sensing area and also in the special sensing area, 6: 1-30),
- *each sub process is assigned to translate one or more particular input movements into corresponding instruction signals by consulting the knowledge database* (see consulting the knowledge database in 6:23-29) .

Oross does not specifically show *the whole sensing panel functions as a single sensing area and the main process and one or more sub-processes can be invoked regardless of the location of the detected input movement on the sensing panel*. However in the same field of endeavor Westerman teaches *the whole sensing panel functions as a single sensing area and the main process and one or more sub-processes can be invoked regardless of the location of the detected input movement on the sensing*

panel in column 6, lines 58-67 and column 13, lines 14-19. Both Oross and Westerman teach a touch screen panel. Accordingly it would have been obvious to a skilled artisan at the time of the invention was made to modify the touch screen as shown by Oross to incorporate the multi-touch surface as taught by Westerman, thus allowing the system to recognize and distinguishing different types of manual input such as typing, multiple degree of freedom manipulation, and handwriting on a multi-touch surface (Westerman, 6:60-65).

Oross and Westerman do not specifically show *the main process manages one or more sub processes by assigning a priority value such that a sub process having a minor priority value does not impede a sub process having a major priority value*. However in the same field of invention Bodnar teaches *the main process manages one or more sub processes by assigning a priority value such that a sub process having a minor priority value does not impede a sub process having a major priority value* in 6: 15-33. Bodnar shows a low priority counter value reset process (CVR) which resets the counter values for all of the queues and reinitiates the work admission process. Accordingly it would have been obvious to a skilled artisan at the time of the invention was made to modify the method of Oross and Westerman to incorporate the CVR process as taught by Bodnar, thus allowing the system to reduce the work admission (Bodnar, 6:18-21).

As for dependent claim 3:

Oross shows *a method of entering input into a computing system according to claim 1, wherein each particular type of input movement is associated with operation of the sensing panel in any one of the following modes: (a) keyboard modes; (b) mouse modes; (c) scripting modes* (Fig. 15 and 7:43-56);

As for dependent claim 5:

Oross shows *a method of entering input into a computing system according to claim 29, wherein each invoked sub process claims a region of the sensing panel such that any input movements received via the claimed region of the sensing panel will be translated by the sub process having claimed the region* (Figs. 2 and 13, 5:41-45).

As for dependent claim 6:

Oross shows a method of entering input into a computing system. Oross further shows the computer program, a hierarchical control structure, processes control signals indicative of position in the general sensing area and also in the special sensing area, 6: 1-30). However Oross and Westerman do not specifically show *a method of entering input into a computing system according to claim 5, wherein inputs received via a region having been claimed by a sub-process are translated only by the sub-process having claimed that region of the sensing panel, or by a sub-process having a higher priority value than the sub-process having claimed the region of the sensing panel.* However in the same field of invention Bodnar teaches a low priority counter value reset process (CVR) which resets the counter values for all of the queues and reinitiates the work admission process in column 6, lines 15-33. Accordingly it would have been obvious to a skilled artisan at the time of the invention was made to modify the method of Oross and Westerman to incorporate the CVR process as taught by Bodnar, thus allowing the system to reduce the work admission (Bodnar, 6:18-21). The teachings of Oross and Westerman in combination with Bodnar render the following limitations: *a method of entering input into a computing system according to claim 5, wherein inputs received via a region having been claimed by a sub-process are translated only by the sub-process having claimed that region of the sensing panel, or by a sub-process having a higher priority value than the sub-process having claimed the region of the sensing panel* as obvious to a skilled artisan at the time of the invention was made.

As for independent claim 8:

Claim 8 contains similar substantial subject matter as claimed in claim 1, and is respectfully rejected along the same rationale.

As for dependent claim 10:

Claim 10 contains similar substantial subject matter as claimed in claim 3, and is respectfully rejected along the same rationale.

As for dependent claim 14:

Oross shows an *input system according to claim 8, further including a movement indicating device, wherein the input movements detected are the movements of the movement indicating device, the movement of which across the surface of the panel indicates an instruction signal to move in the direction*

indicated with the movement indicating device (Oross 5:10-17 and Fig. 1 B; the user moves a finger in a direction 30, a cursor 14 on a display screen 32 of the host computing apparatus 12 is moved in a corresponding direction 37. The magnitude and speed of the motion 34 is determined by the executed program or user- selectable parameters accessed by the executed program).

As for dependent claim 15:

Oross shows an *input system according to claim 14, wherein an application of pressure to the movement indicating device causes an input movement which is interpreted by the processor as indicating an instruction signal to move downwards, and reducing the pressure applied to the movement indicating device causes an input movement which is interpreted by the processor as indicating an instruction signal to move upwards* (1:34-39 and 3:43-45).

As for dependent claim 16:

Oross shows an *input system according to claim 14, wherein the amount of pressure being applied to the movement indicating device is detected by reference to the size of an area of contact between the fingers or movement indicating device and the surface of the panel, or by reference to change in size of an area of contact between the fingers or movement indicating device and the surface of the panel* (1:34-39 and 3:43-45).

As for dependent claim 30:

Oross shows a *method of entering input into a computing system according to claim 5, wherein once the claiming sub process is complete, the claimed region reverts to an unclaimed status* (Fig. 13).

As for dependent claim 31:

Oross shows an *input system according to claim 11, wherein the sensors detect light patterns which are transformed into images and an input movement is detected when a first image differs from a subsequently formed second image* (Figs. 2 and 13, 5:41-45).

As for dependent claim 32:

Oross shows an *input system according to claim 8, wherein the sensing panel further includes a display layer for guiding user input* (columns 9 and 10).

As for dependent claim 33:

Oross shows an *input system according to claim 8, wherein the knowledge database is dynamic to enable the association between an input movement and a corresponding instruction signal to be redefined to adapt the input system to preferences of an individual user* (7:35-65).

As for dependent claim 34:

Oross shows *a computer-readable recording medium encoded with a computer program, the computer program for use in a system for entering input into a computing system, the system comprising a processor and associated memory device for storing the computer software including a series of instructions to cause the processor to carry out a method according to claim 1* (Fig. 1A, see rejection details in claim 1 above).

As for dependent claim 35:

Oross shows *an input device for use with a computing system for entering input into the computing system, the input device comprising a sensing panel and a transmission component for transmitting detected input movements to a processor to identify an instruction signal corresponding to the detected input movement in accordance with the method according to claim 1* (Figs. 1A, 1B, and 2).

As for dependent claim 36:

Oross-Westerman-Bodnar suggests a method according to claim 1, wherein the order of the priority value assigned to each sub process is dependent on:

(a) how the sub process was invoked; (b) when the sub process was requested; (c) an original position of the input movement which invoked the sub process on the sensing panel; and (d) a mode requested for the sub process (Oross discloses a special touch sensing area in column 5, lines 50-67. This special sensing area as shown in Figure 2 are either dedicated to implement specific functions or are programmable to implement the desired programmable functions. Further more Oross discloses common active layers to implement both the general touch and special sensing areas. The computer program, a hierarchical control structure, processes control signals indicative of position in the general sensing area and also in the special sensing area, 6: 1-30).

As for dependent claim 37:

Oross-Westerman-Bodnar suggests *a method according to claim 1, wherein once a sub process has been assigned a priority, it is registered in a registration list which records data including sub process identification, modes, and priorities* (Bodnar, 3:5-11). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the method of Oross for the same reason stated previously above (see claim 1 *supra*).

As for dependent claim 38:

Oross-Westerman-Bodnar suggests *a method according to claim 37, wherein the registration list further records claimed regions* (Bodnar, 3:5-11). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the method of Oross for the same reason stated previously above (see claim 1 *supra*).

As for dependent claim 39:

Oross shows a *method according to claim 6, wherein all sub processes can process input movements entered via unclaimed regions of the sensing panel* (Oross discloses a special touch sensing area in column 5, lines 50-67).

As for dependent claim 40:

Oross shows a *method according to claim 5, wherein a claim for a region is successful if the region is unclaimed or if it has been previously claimed by a sub process having a lower priority than the sub process currently seeking the claim* (In column 5, lines 50-67, Oross shows a special sensing area and a general sensing area)

8. **Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oross, US# 6,757,002 in view of Westerman et al., US# 6,888,856 (hereinafter Westerman), in view of Bodnar, US# 6,542,950 B1, and in further view of Umeya et al., US# 6,028,581 (hereinafter Umeya).**

As for dependent claims 11 and 12:

Oross and Westerman do not specifically show *sensors for detecting input movements are complementary metal oxide semiconductor sensors and light detecting sensors.* In the same field of endeavor Umeya teaches *sensors for detecting input movements are complementary metal oxide semiconductor sensors and light detecting sensors* and sensors detect light patterns which are

transformed into images and an input movement is detected when a first image differs from a subsequently formed second image in FIG.7, wherein second transistor is a TFT switch that forms part of a metal-oxide semiconductor (MOS) image sensor array including a photo diode and a micro lens. The second transistor causes an input to be sensed by the LCD. The inputs sensed by the LCD include image inputs and inputs from a pen and a human touch. The first and second transistors are fabricated on the same side of the same substrate. (Umeya, See Abstract). It would be obvious to a skilled artisan at the time of the invention was made to modify Oross's and Westerman's touch panel input to incorporate metal-oxide semiconductor to capture image as taught by Umeya. The motivation to combine Oross's and Westerman's touch panel and Bodnar input with Umeya's metal-oxide semiconductor to capture image would be to allow the built-in self-scan feature of the ASR image sensor which requires no external shift register. Another advantage would be MOS processing is used which should enable image sensors to be made at less cost. A third possible advantage is that the MOS ASR image sensor can operate at lower light levels than conventional bipolar image sensors. Applicant should duly note that Metal-oxide semiconductor sensors are using light to detect movements.

It is noted that any citation to specific, pages, columns, lines, or figures in the prior art references and any interpretation of the references should not be considered to be limiting in any way. A reference is relevant for all it contains and may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art. In re *Heck*, 699 F.2d 1331, 1332-33,216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting In re *Lemelson*, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)).

The Examiner notes MPEP § 2144.01, that quotes *In re Preda*, 401 F.2d 825,159 USPQ 342, 344 (CCPA 1968) as stating "in considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom." Further MPEP 2123, states that "a reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including nonpreferred embodiments. Merck & Co. v. Biocraft Laboratories, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989).

Response to Arguments

9. Applicant's arguments with respect to claims 1, 3-6, 8, 10-12, 14-16 and 29-40 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Phantana-angkool whose telephone number is 571-272-2673. The examiner can normally be reached on M-F, 9:00-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Bashore can be reached on 571-272-4088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DP
/David Phantana-angkool/
Examiner, Art Unit 2175

/Adam L Basehoar/
Primary Examiner, Art Unit 2178